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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,725	12/21/2001	Sabine Flicker	25401-4	9787

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DINSMORE & SHOHL, LLP
1900 CHEMED CENTER
255 EAST FIFTH STREET
CINCINNATI, OH 45202

EXAMINER	
HUYNH, PHUONG N	

ART UNIT	PAPER NUMBER
1644	

DATE MAILED: 08/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/027,725	FLICKER ET AL.	
	Examiner	Art Unit	
	Phuong Huynh	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *Three* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *25-46* is/are pending in the application.

4a) Of the above claim(s) *35-38* is/are withdrawn from consideration.

5)☒ Claim(s) *45 and 46* is/are allowed.

6)☒ Claim(s) *25-34 and 39-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 25-46 are pending.

2. The request to rejoin claims 35-38 upon the allowance of linking claim 25 is acknowledged.

Process claims that depend from or otherwise include all the limitations of the patentable product will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai, In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

3. Claims 35-38 stand withdrawn from further consideration by the examiner, 37 C.F.R. 1.142(b) as being drawn to non-elected inventions.

4. The following new grounds of rejections are necessitated by the amendment filed 5/28/04.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 25-34, and 39-44 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling only for a group 2 allergen specific human IgE Fab as set forth in claims 45-56 for detection assay, **does not** reasonably provide enablement for (1) *any* group 2 allergen specific human IgE-Fabs having a heavy chain consisting of an amino acid sequence as shown in SEQ ID NO: 7, SEQ ID NO: 8, or SEQ ID NO: 9 ***or*** a light chain consisting of an amino acid sequence as shown in SEQ ID NO: 10, SEQ ID NO: 11 or SEQ ID NO: 12, and any combination of heavy and light chain consisting of an amino acid sequence as set forth in claim 25, (2) *any* group 2 allergen specific human IgG comprising the variable regions of the IgE Fab having a heavy chain consisting of an amino acid sequence as shown in SEQ ID NO: 7, SEQ ID NO: 8, or SEQ ID NO: 9 ***or*** a light chain consisting of an amino acid sequence as shown in SEQ ID NO: 10, SEQ ID NO: 11 or SEQ ID NO: 12, and any combination of heavy and light chain, (3) The group 2 allergen specific human IgG wherein the IgG is directed against any Phl p2, (4) *any* diagnostic reagent comprising any modified version of the IgG and/or the antibody (claims 32, and 42), (5) *any* diagnostic kit comprising the reagent mentioned above (claims 33 and 43), (6) *any* IgE Fab mentioned above wherein the IgE Fab is directed against any Phl p2 (Claim 31), and (7) any vaccine comprising any IgE Fab mentioned above, any modified version of any Fab and/or antibody (claims 34 and 44) for treating any type I allergy. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in **scope** with these claims.

Factors to be considered in determining whether undue experimentation is required to practice the claimed invention are summarized *In re Wands* (858 F2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988)). The factors most relevant to this rejection are the scope of the claim, the amount of direction or guidance provided, the lack of sufficient working examples, the unpredictability in the art and the amount of experimentation required to enable one of skill in the art to practice the claimed invention. The specification disclosure is insufficient to enable one skilled in the art to practice the invention as broadly claimed without an undue amount of experimentation.

The breath of the claims encompasses any human IgE Fab comprising any combination of heavy and light chain of human IgE Fab having the amino acid sequence of SEQ ID NO: 7-12 encoded by nucleic acid sequence of SEQ ID NO: 1-6, and any IgE or IgG Fab fragment comprising either heavy *or* light chain that binds to any Phl p2, any modified version of any IgE or IgG Fab or antibody mentioned above as a vaccine.

The specification discloses only three Phl p2 specific human IgE Fab fragments consisting of a heavy chain *and* a light chain wherein the heavy chain amino acid sequence consists of SEQ ID NO: 7 and the light chain amino acid sequence consists of SEQ ID NO: 10 or a heavy chain consisting of SEQ ID NO: 8 and a light chain consisting of SEQ ID NO: 11, or a heavy chain consisting of SEQ ID NO: 9 and a light chain consisting of SEQ ID NO: 12 for inhibiting the binding of grass pollen allergic patient's IgE to Phl 2 in vitro, (2) An Phlp2 specific antibody comprising the variable region comprising a heavy chain, *and* a light chain of a human IgG wherein the variable region comprises a heavy chain amino acid sequence is set forth in SEQ ID NO: 7 and the light chain amino acid sequence is set forth in SEQ ID NO: 10 or a heavy chain is set forth in SEQ ID NO: 8 and a light chain is set forth in SEQ ID NO: 11, or a heavy chain is set forth in SEQ ID NO: 9 and a light chain is set forth in SEQ ID NO: 12 for inhibiting the binding of grass pollen allergic patient's IgE to Phl 2 in vitro, and (3) a diagnostic reagent or a kit comprising said Phl p2 specific human IgE Fabs and/or said specific Phl p2 antibody mentioned above for detection assay (See pages 13 and 17-18). The specification further discloses all three IgE Fabs bound to the same recombinant fragment consisting of the N-terminal 64 amino acids of Phl p2. The specification discloses grafting the variable regions of the Phl p2 specific human IgE Fab fragments onto human IgG1 (page 3) for suppressing Phl p2 degranulation of basophiles.

The specification does not teach how to make all Group 2 allergen specific human IgE Fab because there is insufficient guidance as to the binding specificity of all human IgE Fab having any combination heavy and light chain, much less Fab having either heavy or light chain.

Harlow *et al* teach that Fab fragment is composed of heavy chain variable domains *and* light chain variable domains (See Fig 2.2 and 2.4, in particular).

Further, there is insufficient guidance as to which amino acids within Fab or the complete antibody to be modified by amino acid substitution, deletion, and addition and whether the resulting antibody or antibody Fab fragment thereof maintains the same binding specificity as the human IgE Fab or complete antibody having a heavy chain as set forth in SEQ ID NO: 7-9 and a light chain as set forth in SEQ ID NO: 10-12.

Rudikoff *et al* teach a single amino acid substitution from glutamic acid to alanine at position 35 in the first hypervariable or complementarity-determining region of an antibody resulted altered binding specificity (See abstract, in particular).

Ngo *et al*, of record, teach that the amino acid positions within the polypeptide/protein that can tolerate change such as conservative substitution or no substitution, addition or deletion which are critical to maintain the protein's structure/function will require guidance (see Ngo et al., 1994, The Protein Folding Problem and Tertiary Structure Prediction, pp. 492-495).

Abaza *et al*, of record, teach that even a single amino acid substitution outside the antigenic site can exert drastic effects on the reactivity of a protein with monoclonal antibody against the site (See abstract, in particular). It is unpredictable which undisclosed modified human IgE or IgG and Fab fragment thereof would have the same binding specificity as the IgE Fab as set forth in claims 45-56 for detection assay, much less as a vaccine against type I allergy.

Given the indefinite number of undisclosed human IgE Fab, complete antibody, human IgG comprising any combination and modified version of variable regions of said IgE Fab that directed against *all* Phl p2, there is insufficient in vivo working example demonstrating that the claimed antibody Fab or complete antibody is effective as a vaccine against type I allergy.

Since the binding specificity of the human IgE or IgG Fab is not enabled, it follows that the complete antibody comprising any combination of variable regions of said IgE Fabs and human IgG is not enable. It also follows that any IgE-Fabs directed against any Phl p2 or recombinantly produced is not enabled. It also follows that any diagnostic reagent, vaccine or kit comprising the undisclosed Group 2 allergen specific human IgE Fab or any Group 2 allergen specific human IgG mentioned above are not enabled.

For these reasons, it would require undue experimentation of one skilled in the art to practice the claimed invention. See page 1338, footnote 7 of Ex parte Aggarwal, 23 USPQ2d 1334 (PTO Bd. Pat App. & Inter. 1992).

In re wands, 858 F.2d at 737, 8 USPQ2d at 1404 (Fed. Cir. 1988), the decision of the court indicates that the more unpredictable the area is, the more specific enablement is necessary. In view of the quantity of experimentation necessary, the limited working examples, the unpredictability of the art, the lack of sufficient guidance in the specification and the breadth of the claims, it would take an undue amount of experimentation for one skilled in the art to practice the claimed invention.

7. Claims 25-34, and 39-44 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

The specification does not reasonably provide a **written description** of (1) *any* group 2 allergen specific human IgE-Fabs having a heavy chain consisting of an amino acid sequence as shown in SEQ ID NO: 7, SEQ ID NO: 8, or SEQ ID NO: 9 ***or*** a light chain consisting of an amino acid sequence as shown in SEQ ID NO: 10, SEQ ID NO: 11 or SEQ ID NO: 12, and any combination of heavy and light chain consisting of an amino acid sequence as set forth in claim 25, (2) *any* group 2 allergen specific human IgG comprising the variable regions of the IgE Fab having a heavy chain consisting of an amino acid sequence as shown in SEQ ID NO: 7, SEQ ID NO: 8, or SEQ ID NO: 9 ***or*** a light chain consisting of an amino acid sequence as shown in SEQ ID NO: 10, SEQ ID NO: 11 or SEQ ID NO: 12, and any combination of heavy and light chain, (3) The group 2 allergen specific human IgG wherein the IgG is directed against any Phl p2, (4) *any* diagnostic reagent comprising any modified version of the IgG and/or the antibody (claims 32, and 42), (5) *any* diagnostic kit comprising the reagent mentioned above (claims 33 and 43), (6) *any* IgE Fab mentioned above wherein the IgE Fab is directed against any Phl p2 (Claim 31), and (7) any vaccine comprising any IgE Fab mentioned above, any modified version of any Fab and/or antibody (claims 34 and 44) for treating any type I allergy.

The specification discloses only three Phl p2 specific human IgE Fab fragments consisting of a heavy chain *and* a light chain wherein the heavy chain amino acid sequence consists of SEQ ID NO: 7 and the light chain amino acid sequence consists of SEQ ID NO: 10 or a heavy chain consisting of SEQ ID NO: 8 and a light chain consisting of SEQ ID NO: 11, or a heavy chain consisting of SEQ ID NO: 9 and a light chain consisting of SEQ ID NO: 12 for inhibiting the binding of grass pollen allergic patient's IgE to Phl 2 in vitro, (2) An Phlp2 specific antibody comprising the variable region comprising a heavy chain, *and* a light chain of a human IgG wherein the variable region comprises a heavy chain amino acid sequence is set forth in SEQ ID NO: 7 and the light chain amino acid sequence is set forth in SEQ ID NO: 10 or a heavy chain is set forth in SEQ ID NO: 8 and a light chain is set forth in SEQ ID NO: 11, or a heavy chain is set forth in SEQ ID NO: 9 and a light chain is set forth in SEQ ID NO: 12 for inhibiting the binding of grass pollen allergic patient's IgE to Phl 2 in vitro, and (3) a diagnostic reagent or a kit comprising said Phl p2 specific human IgE Fabs and/or said specific Phl p2 antibody mentioned

above for detection assay (See pages 13 and 17-18). The specification further discloses all three IgE Fabs bound to the same recombinant fragment consisting of the N-terminal 64 amino acids of Phl p2. The specification discloses grafting the variable regions of the Phl p2 specific human IgE Fab fragments onto human IgG1 (page 3) for suppressing Phl p2 degranulation of basophiles.

With the exception of the three Phl p2 specific human IgE Fabs having the specific combination of heavy *and* light chain and the specific immunoglobulin comprising the variable region of the specific IgE Fab and human IgG1 for inhibiting the binding of grass pollen allergic patients IgE antibodies to Phl p2, there is inadequate written description about the binding specificity of all Group 2 allergen specific human IgE Fab comprising any combination of heavy chain and light chain, any IgE Fab fragment comprising only heavy chain as set forth in SEQ ID NO: 7-9 or only light chain as set forth in SEQ ID NO: 10-12 because Fab fragment requires both heavy and light chains. Further, there is insufficient written description about structure associated with binding specificity of all the modified version of any IgG, any IgE antibody and any Fab fragment thereof mentioned above. Since the binding specificity of the human IgE or IgG Fab is not adequately described, it follows that the complete antibody comprising the variable regions of said IgE Fabs and human IgG is not adequately described. It also follows that any IgE-Fabs directed against all Phl p2 or any IgE Fab recombinantly produced is not adequately described. It also follows that any diagnostic reagent, vaccine or kit comprising the undisclosed Group 2 allergen specific human IgE Fab or any Group 2 allergen specific human IgG mentioned above are not adequately described.

The specification discloses only three Phl p2 specific human IgE Fabs. Given the lack of a written description of *any* additional representative species of modified version of Fab and/or antibody as encompassed by the claims for diagnostic reagent, kit or vaccine comprising the undisclosed antibody, one of skill in the art would reasonably conclude that the disclosure fails to provide a representative number of species to describe the genus. Thus, Applicant was not in possession of the claimed genus. *See University of California v. Eli Lilly and Co. 43 USPQ2d 1398; University of Rochester v. G.D. Searle & Co., 69 USPQ2d 1886 (CA FC2004).*

Applicant is directed to the Final Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, ¶ 1 "Written Description" Requirement, Federal Register, Vol. 66, No. 4, pages 1099-1111, Friday January 5, 2001.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

9. Claims 25-34, and 39-44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The "Fab having a heavy chain consisting of ....***or*** a light chain ..." in claim 25 is ambiguous and indefinite because "Fab" fragment of an antibody requires both heavy and light chain, not either heavy or light chain as claimed.

The "...human IgG comprising the variable regions of the IgE Fab having a heavy chain consisting of .... ***or*** a light chain ..." in claim 26 is ambiguous and indefinite because "Fab" fragment of an antibody requires both heavy and light chain.

"A group 2 allergen...IgE Fab having a heavy chain... ***or*** a light chain encoded by the nucleic acid as shown..." in claim 39 is in claim 39 is ambiguous and indefinite because "Fab" fragment of an antibody requires both heavy and light chain.

"A group 2 allergen specific human IgG comprising the variable regions of the IgE Fab having a heavy chain... ***or*** a light chain encoded by the nucleic acid as shown..." in claim 40 is in claim 40 is ambiguous and indefinite because "Fab" fragment of an antibody requires both heavy and light chain.

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 32, 34, 42, and 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Steinberger *et al* (J Biol Chem 271(18): 10967-72, 1996; PTO 892).

Steinberger *et al* teach a diagnostic agent comprising a modified version of the human IgE Fab allergen specific human IgE Fab having the amino acid sequences homologous to the amino acid sequence of SEQ ID NO: 10 (See page 10970, Figure 5B, in particular) and SEQ ID NO: 7 (See page 10970, Figure 4, in particular) which is useful as a diagnostic reagent in

detecting IgE binding to Phl allergen in vitro. The reference recombinant human IgE Fab encoded by the nucleic acid sequence such as the ones in Figure 5A is a homologous variant of the claimed SEQ ID NO: 4. Since the Patent Office does not have the facilities for examining and comparing the antibodies of the instant invention to those of the prior art, the burden is on applicant to show that the prior art antibody is different from the claimed antibody. See In re Best, 562 F.2d 1252, 195 USPQ 430(CCPA 1977). Claim 34 is included in this rejection because Steinberger *et al* teach the reference allergen specific human IgE Fab is useful as blocking antibodies for passive therapy in the allergic effector organs (See page 10972, column 1, in particular). Thus, the reference teachings anticipate the claimed invention.

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 103(a) that form the basis for the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. This application currently names joint inventors. In considering Patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 32, 33, 42, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinberger *et al* (J Biol Chem 271(18): 10967-72, 1996; PTO 892) in view of US Pat No 5,945,294 (Aug 1999, PTO 892).

The teachings of Steinberger *et al* have been discussed supra.

The claimed invention in claims 33 and 43 differs from the teachings of the reference only in that the a diagnostic kit comprising the reagent comprising a modified version of the human IgE Fab allergen specific human IgE Fab having the amino acid sequences of SEQ ID

NO: 10 (See page 10970, Figure 5B, in particular) and SEQ ID NO: 7 (See page 10970, Figure 4, in particular).

The '294 patent teaches diagnostic kit for IgE detection using human Fc epsilon receptor (See abstract, in particular). The kit is useful for diagnosing abnormal conditions in animals that are associated with changing levels of IgE associated with allergy (See column 15, lines 19-23, in particular).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to put the antibody taught by Steinberger *et al* in a kit as taught by the '294 for diagnostic assays. One would have been motivated, with a reasonable expectation of success to do this for convenience and commercial expedience. A kit will allow for ease of use for the practitioner since all the necessary reagents, standard and instructions for use are included in a kit as taught by '294 (See column 14, in particular). From the teaching of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in producing the claimed invention.

15. Claims 45 and 46 are allowed.

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Huynh "NEON" whose telephone number is (571) 272-0846. The examiner can normally be reached Monday through Friday from 9:00 am to 5:30 p.m. A message

may be left on the examiner's voice mail service. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Chan can be reached on (571) 272-0841. The IFW official Fax number is (703) 872-9306.

18. Any information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuong N. Huynh, Ph.D.
Patent Examiner
Technology Center 1600
August 20, 2004

Christina Chan

CHRISTINA CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600